

**SYSTEM AND METHOD  
OF DISHARMONIC FREQUENCY MULTIPLEXING**

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**ABSTRACT OF THE DISCLOSURE**

A multiplexing system and method for conveying  
simultaneously a multiplicity of communication channels over  
a single transmission medium. Multiplexing is effected by  
transforming a digital bit stream of each respective  
incoming channel into a corresponding prime frequency  
information stream and transmitting all of the prime  
frequency information streams over the single transmission  
medium. Digital bit streams carried on each incoming  
channel entering the system are in the form of binary "on"  
and "off" bits. These digital bits are converted into a  
corresponding information stream at a prime frequency  
component. Each prime frequency information stream is  
rendered distinctive and non-interfering with other prime  
frequency information streams during simultaneous  
transmission over the common medium due to the unique and  
heretofore unexploited mathematical properties of prime  
numbers. Expanded bandwidth is accomplished by grouping the  
prime frequency information streams into "chords" of  
disharmonic frequencies, and then transmitting the chord,  
composed of several discordant prime frequency information  
streams, over the single transmission medium.